

Application Serial No. 09/831,996
Amendment Dated August 20, 2004
Reply to Office Action Dated May 20, 2004

Remarks

Claims 18-33 remain in the application; and re-examination and reconsideration of the application are respectfully requested. The Abstract has been amended to under 150 words.

Applicants hereby confirm the election of Specie I claims 18-24 for examination.

The invention of claim 18 is directed to the problem in known systems of requiring the operator to manipulate a computer keyboard as well as a pointer in order to record the image or to carry out controlling or marking procedures (page 2, lines 17-20). The navigation system of claim 18 employs means that permit menu-guided control of the system by movement of the pointer instrument outside the operation field OF (Fig. 4) to a control field SF (page 5, lines 8-11). Thus, a surgeon is able to control all essential functions of the navigation system and the computer with no help from anyone else. In particular, the surgeon is able to change the forms of representation and the views of the anatomical structures and/or turn on specific functions, such as achieved by a simple spatial movement of the navigation instrument from the operation field OF to the control field SF (page 6, lines 21-28). Within the operation field OF, the operator touches the pointer tip at a site to be identified and represented by the navigation system. The navigation system then enables the monitor to display the representation based on the position of the pointer tip and the specified orientation and space. However, when the operator moves the pointer to the control field SF, the function of the pointer is automatically switched, thereby permitting the pointer to be used to select and activate menus on the monitor and thus control the system. The confirmation or initiation of a selected function can be brought about by a key on the pointer which is also connected to the navigation system. Thus, by simply moving the pointer outside the operation field OF, the surgeon is able to execute functions that are normally executed by using a keyboard. This capability substantially improves the ease with which the navigation and control system is used.

Claims 18-24 are rejected under 35 U.S.C. §102(e) as being anticipated by Shahidi (U.S. Patent No. 6,167,296). Shahidi relates to an improved system for displaying 3D images of anatomical structures in real time during surgery. The system

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has the capability of overlaying images generated by ultrasound probes, endoscopes, etc., with virtual images generated from scanned data. The system has the further capability of generating an image with user controlled means for varying the location and orientation of the viewpoint corresponding to the image. Shahidi utilizes an optical tracking system comprised of LED's 110, 111 and sensors 106-108. In contrast, claim 18 requires a constant field transmitter T (Fig. 2) that generates a specified constant DC magnetic field in the navigation environment. Further, at column 7, lines 2-7, Shahidi describes input devices as being a keyboard 103, a mouse 104 or other device. Applicants have been unable to find any disclosure or teaching in Shahidi that permits the surgical instrument 109 carrying the optical tracking system to activate or deactivate menus or control measures by crossing a spacial distance as required by the last element of claim 18. Therefore, Applicants submit that claims 18-24 are patentable and non-anticipated under U.S.C. §102(e) by Shahidi.

Applicants respectfully submit that the application is now in condition for allowance and reconsideration of the application is respectfully requested. The Examiner is invited to contact the undersigned in order to resolve any outstanding issues and expedite the allowance of this application.

Respectfully submitted,

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